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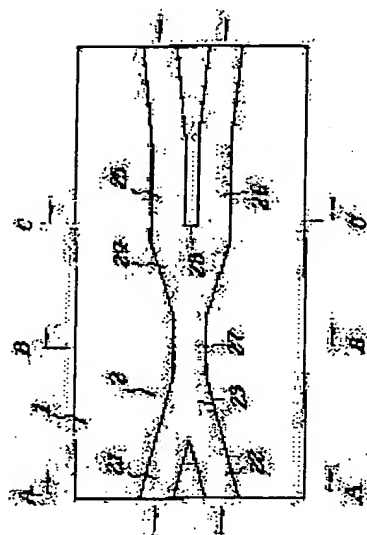
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(54) THICK FILM WAVEGUIDE

(57)Abstract:

PURPOSE: To obtain a mode scrambler in a short length to stabilize a branching ratio for the incidence position of light by providing a waveguide with a high mode eliminating part consisting of a part whose sectional area is made smaller and a mode converting part which converts the light from a lower mode to a higher mode through an optical path intercepting part vertical approximately to the light propagation direction.

CONSTITUTION: The part 27 whose sectional area is made smaller is provided between a coupling part 23 and a branching part 24, and an optical path intercepting part 28 vertical approximately to the light propagation direction is provided in the branching part 24, and exit parts 25 and 26 are connected through this optical path intercepting part 28. Rays of light made incident on two entrance parts 21 and 22 cross in the coupling part 23 and have components of the higher mode eliminated by passing the part 27. They are intercepted by the optical path intercepting part 28 and are inputted to two exit parts 25 and 26 connected to both sides of this part 28. In this process, the light of the lower mode is converted to the high of the higher mode and is distributed equally to exit parts 25 and 26. Thus, the mode scrambler is attained in a short length.



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